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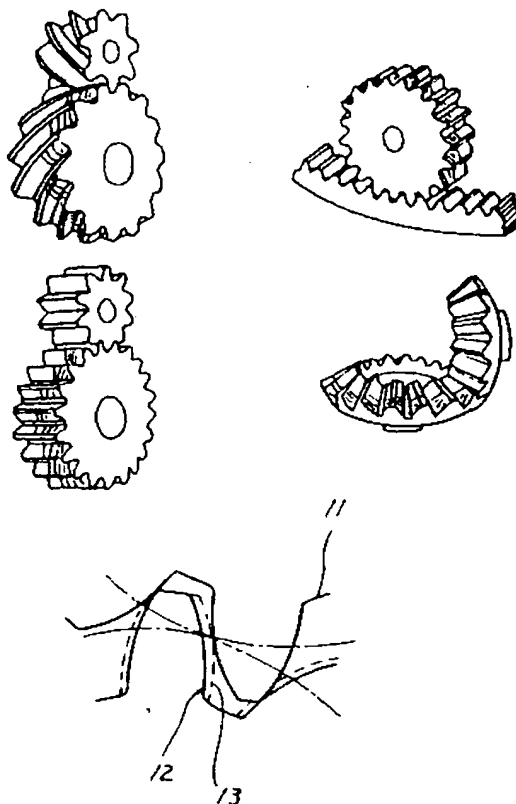
APPLICATION DATE : 24-12-82
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TITLE : SPEED REDUCTION MECHANISM BY GEAR



ABSTRACT : PURPOSE: To obtain a gear with simple construction which eliminates backlash and can be applied to a gear transmission mechanism of various type, by combining gears made of different material so as to integrally use the gears as one gear.

CONSTITUTION: Paired gears 11, 12 are prepared in an ordinary gear shape by a normally used material of S45C or the like. A gear 13, prepared as an integral unit with the gear 12 by an elastic material in a tooth thickness larger than that of the gear 12, is provided. The gear 13 is formed such that its teeth are engaged to the teeth of the gear 11 by always being slightly deformed without providing backlash for the gear 11. When the gears 11, 12 are meshed, the gear 13 engages with the gear 11 always earlier before the gear 12 engages with the gear 11 by a distance of the larger thickness and rotates always in close contact, eliminating a rapid change of transmission torque without backlash of the gear in its engagement, thus smooth transmission is capable. This method can be applied also to a gear shape of various kind, and the backlash can be removed by providing an elastic material in the place of an oblique line part.

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